

Parsed Results Using EPA Modeling Applications (v.2.1) of the Integrated Planning Model

EPA Modeling Applications (v.2.1) of the Integrated Planning Model produce forecasts for model plants, i.e., clusters of real life units with similar characteristics. A parsed file is an Excel spreadsheet that provides unit-level results derived from the model plant projections obtained by the Integrated Planning Model (IPM). Parsed results are generally only produced for fossil-fuel fired units.

Projections for individual plants are based on data currently available and modeling parameters which are simplifications of the real world. It is likely that future actions regarding individual plants will differ from model projections of actions; however, the aggregate impacts are expected to be appropriately characterized by the model.

The following is an explanation of the fields that appear in a parsed file.

- Year - the model run year from which the parsed results were derived (usually 2010 or 2020)
- Online YearUnique ID - The unique identifier assigned to a boiler or generator within a plant. It consists of the Plant ID (or ORIS Code), an indication of whether the unit is a boiler ("B"), generator ("G"), or committed unit ("C"), and the Unit ID. For example, for the Unique ID "113_B_1", "113" is the Plant ID, "B" indicates that this unit is a boiler, and "1" indicates that the ID of the boiler is 1.
- Plant name - The Plant's name.
- Plant Type - An indication of the type of unit - e.g., coal steam, combined cycle, IGCC (integrated gasification combined cycle), oil and gas steam, combustion turbine.
- Fuel Type - The type of fuel used in the unit for electricity generation - e.g., coal, gas, oil, other.
- State Name, State Code, County, County Code - These four fields identify the geographic location of the unit. The State Code is the FIPS State Code, and the County Code is the FIPS County Code. New units have blanks in these columns, while committed units have zeros.
- Plant ID - The unique identifier assigned to each plant in the model. Committed units have zeroes in this column, while new units have blanks. Otherwise, all Plant IDs are unique to the plant. All units within a plant will typically have the same Plant ID. The Plant ID is most often the ORIS Code.
- Unit ID - The identifier assigned to each unit/boiler in a given plant.
- Capacity - The capacity of the unit available for generation for sale to the grid. This capacity reflects the adjustments made to the unit's initial capacity in projections from IPM runs.
- Typical July Day Heat Input - The model projects heat input for the summer season. The summer season heat input is used as the basis to estimate an average heat input over the course of a day in July (billion Btu/day).
- Typical July Day NO_x - The model projects NO_x emissions for the summer season. The summer season NO_x emissions is used as the basis to estimate typical NO_x emissions for July (tons/day).
- Firing - For boilers, this field indicates the burner type and configuration (e.g., cyclone, FBC (fluidized bed combustion), stoker/SPR, tangential, or vertical. "Unknown" appears in instances where the burner configuration of a boiler was not known. "Other" appears for units that were not boilers.
- Bottom - For boilers, this field indicates distinguishing characteristics of the bottom of the combustion chamber (e.g., dry, wet). Blanks and "Unknown" appears in instances where the bottom characteristics of a boiler were not known. "Other" appears for units that were not boilers.
- EMF_Controls - Shows combination of scrubber, NO_x post-combustion controls and

- particulate matter controls that already exists at the unit.
- Existing NO_x Controls - NO_x controls that already exists at the unit.
- Retrofit Code 1, Retrofit Code 2, Retrofit Control 1, Retrofit Control 2 - These columns indicate the emission control technology retrofits that the model projects will be installed on the unit. Note, the model can retrofit units with control technologies at two different stages. Retrofit Code 1 and Retrofit Control 1 show the control technologies installed in stage 1. Retrofit Code 2 and Retrofit Control 2 show the control technologies installed in stage 2. The “Retrofit Control” columns indicate the category of controls installed. The retrofit control may include gas reburn, mercury controls, early retirement, SCR (selective catalytic reduction), SNCR (selective non-catalytic reduction), and scrubber. The “Retrofit Code” columns provide the code for the specific control technology installed.. For example, LD01, LO01, LO02, ML01, ML02 are codes for various types of scrubbers. Whenever “scrubber” appears in a “Retrofit Control” column, one of these five codes will appear in the corresponding “Retrofit Code” column. Early retirement, though not a control is treated as a retrofit in the modeling and is therefore included in the column. Early retirement indicates that the model projected the unit to retire early.
- Retrofit NO_x/SO₂ Controls - Summarizes all of the control technologies that a unit has put on in stage 1 and stage 2. This column combines the information that appears in the Retrofit Control1 and Retrofit Control2 columns. The retrofits are cumulative to the year for which the run is parsed. For instance, if the parsed file is for 2020, it will include all retrofits projected by the model for the unit through 2020.
- Fossil unit? - Indicates whether the unit is fossil-fuel fired.
- Summer Fuel Use - Projected fuel consumed at the unit in May - September (Trillion British thermal units) during the year for which the run was parsed.
- Total Fuel Use - Projected fuel consumed at the unit during the year for which the run was parsed (Trillion British thermal units).
- Summer Subbituminous Fuel Use, Total Subbituminous Fuel Use, Summer Bituminous Fuel Use, Total Bituminous Fuel Use, Summer Lignite Fuel Use, Total Lignite Fuel Use - These six columns give the projected coal consumption, by coal rank, during the summer months (May - September) and the year for which the run was parsed (Trillion British Thermal Units).
- Summer NO_x Emission and Total NO_x Emission - Projected NO_x emitted from the unit during the summer months (May - September) and year round (Thousand tons) during the year for which the run was parsed.
- Total SO₂ Emission - Projected annual SO₂ emissions during the year for which the run was parsed (Thousand tons).
- Total CO₂ Emission - Projected annual CO₂ emissions during the year for which the run was parsed. (Thousand tons)
- Total Hg Emission - Projected annual mercury emissions during the year for which the run was parsed. (Tons).

Some parsed files contain two additional fields:

- Online Year - The year in which the unit came online.
- Heat Rate - The unit’s projected heat rate for the year for which the run was parsed (Btus/KWh).